Everything I believe is in this
book

```
#include <array>
#include <string>

namespace Nāwhaianō_
nāwhaianōrā_Ināwhaianō {

    enum zero_set {
        pūwāhi_kau,
        pūtake_aukati,
        huinga_whakaputa,
        katinotoa,
```

```
        kauaeheahea,
        huinga_kōwhiringa
    };

    struct Te_Whariki_Pumotu {
        void whakawātea() {
            ngā_zero_set.
fill(pūwāhi_kau);
        }

        void whakatakoto(un-
```

```
signed int x, unsigned int y,
zero_set z) {
            ngā_zero_set[taupū(x,
y)] = z;
        }

        zero_set pānui(unsigned
int x, unsigned int y) const {
            return ngā_zero_
set[taupū(x, y)];
        }
```

```
        void tāpiri(const Te_
Whariki_Pumotu& atu, int
nekeneke_x, int nekeneke_y)
{
            for (unsigned int y =
1; y <= teitei; ++y) {
                for (unsigned int x
= 1; x <= whānui; ++x) {
                    zero_set z = atu.
ngā_zero_set[taupū(x, y)];
```

```
                if (z == pūwāhi_
kau) continue;

                int hou_x = stat-
ic_cast<int>(x) + nekeneke_x;
                int hou_y = stat-
ic_cast<int>(y) + nekeneke_y;

                if (hou_x >=
1 && hou_x <= static_
cast<int>(whānui) &&
```

```
                    hou_y >=
1 && hou_y <= static_
cast<int>(teitei)) {
                    whakatako-
to(static_cast<unsigned in-
t>(hou_x),
                        static_
cast<unsigned int>(hou_y), z);
                }
            }
        }
```

```
        }
        static constexpr un-
signed int whānui = 19;
        static constexpr un-
signed int teitei = 19;

        std::array<zero_set,
whānui* teitei> ngā_zero_
set{};

        static constexpr un-
```

```
signed int taupū(unsigned int
x, unsigned int y) {
            return (y - 1) * whānui
+ (x - 1);
        }

        std::string ascii() const {
            std::string out;

            for (unsigned int y =
1; y <= teitei; ++y) {
```

```
            for (unsigned int x
= 1; x <= whānui; ++x) {
                out += tohu(ngā_
zero_set[taupū(x, y)]);
                if (x < whānui)
out += ' ';
            }
            out += '\n';
        }

        return out;
```

```
        }

        static char tohu(zero_set
z) {
            switch (z) {
            case pūwāhi_kau:
return '.';
            case pūtake_aukati:
return '0';
            case huinga_whaka-
puta: return 'W';
```

```
            case katinotoa: return
'K';
            case kauaeheahea:
return 'X';
            case huinga_kōwhir-
inga: return '?';
            default: return '!';
            }
        }
    };
```

THE END

You can use this however u want.
Except if currency is Involved
in any way. If you are unsure
please j email me at karlleisky@
gmail.com and I will tell u
explicitly if what ur doing is
all g. If you have NOT emailed
me AND you profit from any ideas
expressed in this book you are
stealing from me and every
single person who has used this
legitimately

I can do whatever I want.